WHAT IS CLAIMED IS:

1. An isolated soluble complex comprising at least 6 amino acids of the mature protein portion of SEQ ID NO: 2 or 4, and:

a) at least 6 amino acids of the mature protein portion of SEQ ID NO: 12 or 13; or

b) at least 6 amino acids of the mature protein portion of the CNTF-R.

2. The complex of Claim 1, wherein said complex:

a) comprises a recombinant polypeptide of mature SEQ ID NO: 2 or 4;

b) comprises a recombinant polypeptide of mature SEQ ID NO: 12 or 13;

c) comprises a recombinant polypeptide of mature CNTF-R;

d) comprises both a recombinant polypeptide of mature SEQ ID NO: 2 or 4, and a recombinant polypeptide of mature SEQ ID NO: 12 or 13;

e) comprises both a recombinant polypeptide of mature SEQ ID NO: 2 or 4, and a recombinant polypeptide of mature CNTF-R;

f) is detectably labeled;

g) is in a buffered solution; or

h) is in a sterile solution.

3. The complex of Claim 1, which:

a) comprises a mature IL-B60 polypeptide;

b) comprises a mature CLF-1 polypeptide;

c) comprises a mature CNTF-R polypeptide;

d) exhibits at least four nonoverlapping segments of at least seven amino acids of SEQ ID NO: 2 or 4;

e) exhibits epitopes from both primate L-B60 and primate CLF-1;

f) exhibits epitopes from both primate L-B60 and primate CNTF-R;
g) is not glycosylated;
h) is attached to a solid substrate;
i) is conjugated to another chemical moiety; or
j) comprises a detection or purification tag, including a FLAG, His6, or Ig sequence.

4. A kit comprising said complex of Claim 1, and:
a) a compartment comprising said complex; or
b) instructions for use or disposal of reagents in said kit.

5. An isolated or recombinant polypeptide comprising:
a) a first segment comprising at least seven amino acids identical to segments of SEQ ID NO: 2 or 4, and a second segment comprising at least seven amino acids identical to segments of mature SEQ ID NO: 12 or 13;
b) at least two distinct nonoverlapping segments of at least five amino acids identical to segments of mature SEQ ID NO: 2 or 4, and a third segment comprising at least seven amino acids identical to segments of mature SEQ ID NO: 12 or 13;
c) at least one segment comprising at least seven amino acids identical to segments of mature SEQ ID NO: 2 or 4, and two distinct nonoverlapping segments of at least five amino acids identical to segments of mature SEQ ID NO: 12 or 13;
d) a first segment comprising at least seven amino acids identical to segments of SEQ ID NO: 2 or 4, and a second segment comprising at least seven amino acids identical to segments of mature primate CNTF-R;

e) at least two distinct nonoverlapping segments of at least five amino acids identical to segments of mature SEQ ID NO: 2 or 4, and a third segment comprising at least seven amino acids identical to segments of mature primate CNTF-R; or

f) at least one segment comprising at least seven amino acids identical to segments of mature SEQ ID NO: 2 or 4, and two distinct nonoverlapping segments of at least five amino acids identical to segments of mature primate CNTF-R.

6. The polypeptide of Claim 5, wherein said distinct nonoverlapping segments of identity:

a) include one of at least eight amino acids;

b) include one of at least five amino acids and a second of at least six amino acids;

c) include at least three segments of at least four, five, and six amino acids, or

d) include one of at least twelve amino acids.

7. The polypeptide of Claim 5, which:

a) comprises a mature IL-B60 sequence;

b) comprises a mature CLF-1 sequence;

c) comprises a mature CNTF-R sequence;

d) exhibits at least four nonoverlapping segments of at least seven amino acids of SEQ ID NO: 2 or 4;

e) has a length at least about 30 amino acids;

f) exhibits epitopes from both primate IL-B60 and primate CLF-1;

g) exhibits epitopes from both primate IL-B60 and primate CNTF-R;

h) is not glycosylated;

i) has a molecular weight of at least 30 kD;

j) is a synthetic polypeptide;

k) is attached to a solid substrate;

l) is conjugated to another chemical moiety; or

m) comprises a detection or purification tag, including a FLAG, His6, or Ig sequence.

8. A composition comprising:

a) substantially pure combination of IL-B60 and CLF-1;

b) substantially pure combination of IL-B60 and CNTF-R;

c) a sterile polypeptide of Claim 5; or

d) said polypeptide of Claim 5 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

9. A kit comprising a polypeptide of Claim 5, and:

a) a compartment comprising said polypeptide; or

b) instructions for use or disposal of reagents in said kit.

10. A method:

a) of making an antibody which recognizes a complex of Claim 1, comprising inducing an immune response in an animal with said complex;

b) of immunoselecting antibodies, comprising contacting a population of antibodies to a complex of Claim 1, and separating antibodies that bind from those which do not bind; or

c) of formulating a composition, comprising admixing a complex of Claim 1 with a carrier.

11. A binding compound comprising an antigen binding site from an antibody, which antibody specifically binds said complex of Claim 2d or 2e, but not to any of said mature polypeptides of SEQ ID NO: 2, 4, 12, 13, or CNTF-R.

12. The binding compound of Claim 11, wherein:
a) said binding compound is:
i) in a container;
ii) an Fv, Fab, or Fab2 fragment; or
iii) conjugated to another chemical moiety; or
b) said antibody:
i) is raised against a substantially pure complex of IL-B60 with CLF-1;
ii) is raised against a substantially pure complex of IL-B60 with CNTF-R;
iii) is immunoselected;
iv) is a polyclonal antibody;
v) exhibits a Kd to antigen of at least 30 μM;
vi) is attached to a solid substrate, including a bead or plastic membrane;
vii) is in a sterile composition; or
viii) is detectably labeled, including a radioactive or fluorescent label.

13. A composition comprising:
a) a sterile binding compound of Claim 12, or
b) said binding compound of Claim 12 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

14. A kit comprising said binding compound of Claim 11, and:
a) a compartment comprising said binding compound; or
b) instructions for use or disposal of reagents in said kit.

15. A method of producing an antigen:antibody complex, comprising contacting under appropriate conditions a primate complex comprising:

a) IL-B60 and CLF-1 polypeptides; or

b) IL-B60 and CNTF-R polypeptides;

with an antibody of Claim 11, thereby allowing said complex to form.

16. The method of Claim 15, wherein:

a) said complex is purified from other cytokines;

b) said complex is purified from other antibody;

c) said contacting is with a sample comprising a cytokine;

d) said contacting allows quantitative detection of said antigen;

e) said contacting is with a sample comprising said antibody; or

f) said contacting allows quantitative detection of said antibody.

17. An isolated or recombinant nucleic acid:

a) encoding said amino acid portions of Claim 5;

b) encoding said amino acid portions of Claim 5, and comprise a segment at least 30 contiguous nucleotides from SEQ ID NO: 1 or 3;

c) which will coexpress a segment of at least seven contiguous amino acids from SEQ ID NO: 2 or 4, and a segment of at least seven contiguous amino acids from SEQ ID NO: 12 or 13; or

d) which will coexpress a segment of at least seven contiguous amino acids from SEQ ID NO: 2 or 4, and a segment of at least seven contiguous amino acids from CNTF-R.

18. The nucleic acid of Claim 17, which:

a) encodes IL-B60 from a human;

b) encodes CLF-1 from a human;
c) encodes CNTF-R from a human;
d) is an expression vector;
e) further comprises an origin of replication;
f) comprises a detectable label;
g) comprises synthetic nucleotide sequence; or
h) is less than 6 kb, preferably less than 3 kb.

19. A cell comprising said recombinant nucleic acid of Claim 18.

20. The cell of Claim 19, wherein said cell is:
a) a prokaryotic cell;
b) a eukaryotic cell;
c) a bacterial cell;
d) a yeast cell;
e) an insect cell;
f) a mammalian cell;
g) a mouse cell;
h) a primate cell; or
i) a human cell.

21. A kit comprising said nucleic acid of Claim 18, and:
a) a compartment comprising said nucleic acid;
b) a compartment further comprising a primate IL-B60 polypeptide;
c) a compartment further comprising a primate CLF-1 polypeptide;
d) a compartment further comprising a primate CNTF-R polypeptide; or
e) instructions for use or disposal of reagents in said kit.

22. A method:
a) of making a duplex nucleic acid, comprising contacting a nucleic acid of Claim 17 with a complementary nucleic acid under appropriate conditions, thereby forming said duplex;
b) of expressing a polypeptide, comprising expressing said nucleic acid of Claim 17, thereby producing said polypeptide; or
c) of transfecting a cell, comprising contacting said cell under appropriate conditions with said nucleic acid of Claim 17.

23. An isolated or recombinant nucleic acid which encodes at least 5 contiguous amino acids of SEQ ID NO: 12, 13, or primate CNTF-R and:
a) hybridizes under wash conditions of 30 minutes at 30° C and less than 2M salt to the coding portion of SEQ ID NO: 1; or
b) exhibits identity over a stretch of at least about 30 nucleotides to a primate IL-B60.

24. The isolated nucleic acid of Claim 23, wherein:
a) said contiguous amino acids number at least 8;
b) said wash conditions are at 45° C and/or 500 mM salt; or
c) said stretch is at least 55 nucleotides.

25. The recombinant nucleic acid of Claim 23, wherein:
a) said contiguous amino acids number at least 12;
b) said wash conditions are at 55° C and/or 150 mM salt; or
c) said stretch is at least 75 nucleotides.

26. A method of modulating physiology or development of a cell or tissue culture cells comprising contacting

said cell with an agonist or antagonist of a complex comprising mammalian IL-B60 and:

a) CLF-1; or

b) CNTF-R.

27. A method of:

a) producing a complex of Claim 1, comprising coexpressing a recombinant IL-B60 with a recombinant CLF-1 or CNTF-R;

b) increasing the secretion of an IL-B60 polypeptide comprising expressing said polypeptide with CLF-1; or

c) increasing the secretion of a CLF-1 polypeptide, comprising expressing said CLF-1 with an IL-B60.

28. The method of Claim 27, wherein:

a) said increasing is at least 3 fold; or

b) said expressing is of a recombinant nucleic acid encoding one or both of said polypeptide and CLF-1.

29. A method of screening for a receptor which binds said complex of Claim 1, comprising contacting said complex to a cell expressing said receptor under conditions allowing said complex to bind to said receptor, thereby forming a detectable interaction.

30. The method of Claim 29, wherein said interaction results in a physiological response in said cell.

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